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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/385,020	08/30/1999	SHUNPEI YAMAZAKI	0756-2023	8609

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EXAMINER	
NGUYEN, KEVIN M	
ART UNIT	**PAPER NUMBER**
2674	

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/385,020	YAMAZAKI, SHUNPEI	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/07/2005 has been entered. An action on the RCE follows:

2. Claims 1-6 and 27-31 are cancelled, claims 7, 11, 15, 19 and 23 are amended, and claims 8-10, 12-14, 16-18, 20-22 and 24-26 are previously presented. Thus, claims 7-26 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komoto et al (US 6,586,874) hereinafter Komoto in view of Kurematsu et al (US 6,281,867) hereinafter Kurematsu.

5. As to claims 7, 11, 15, 19, 23, Komoto teaches an electronic device [a portable type electronic equipment, see col. 10, lines 40-42], comprising:

A reflection type liquid crystal panel comprising an active matrix substrate and a counter substrate, said active matrix substrate having a plurality of thin film transistors and a plurality of pixel electrodes connected with the thin film transistors [a reflection type liquid crystal panel (see fig. 39), comprising an active matrix substrate 32 (see fig. 16) and a Fresnel type reflection plate 200 (a counter substrate, see fig. 39), the active matrix substrate having a plurality of thin film transistors 35 (see fig. 16), a plurality of pixel electrodes 34 (see fig. 16)];

a battery [battery cells, see col. 10, line 40];

a light source comprising 3-color light emitting diodes for producing three primary colors for additive color mixing [the LED lamps 22d, 22e and 22f emitting R, G, and B colors are arranged in the installation section 25d, see fig. 23a, col. 22, lines 47-49. The light emitting element 110 and produces the lights having the wavelengths at the red, green, and blue color range is used as the wavelength change material 112, the light source emitting a white color of a high luminance can be realized, col. 34, lines 47-51]. Thus, the 3-color red, green, and blue are mixing for the white light as claimed;

a reflection plate located adjacent to the liquid crystal panel with the light emitting diodes interposed therebetween, said light emitting diodes and the reflection plate arranged horizontally with respect to the liquid crystal panel [a Fresnel type reflection plate 200 (a reflection plate, fig. 39), the light emitting diodes (22d, 22e, 22f, fig. 30) interposed therebetween, the light emitting diodes (22d, 22e, 22f, fig. 30) and the Fresnel type reflection plate 200 (the reflection plate, fig. 39) arranged horizontally with respect to the liquid crystal display (fig. 16)];

wherein white light emitted from the light source is introduced into said liquid crystal panel from sides of said counter substrate of said liquid crystal panel [white light emitted from the light source 22 (col. 34, lines 44-53) is introduced into the liquid crystal panel from sides of Fresnel type reflection plate 200 (the counter substrate, fig. 39) of the liquid crystal panel (fig. 37)].

Accordingly, Komoto teaches all of the claimed limitations, except wherein at least a part of the white light introduced to said counter substrate is reflected on the pixel electrode so as not to pass through the active matrix substrate.

However, Kurematsu teaches a related active matrix liquid crystal display panel [the active matrix driving portion 27 of the liquid crystal panel 2, see fig. 16, col. 13, lines 40-43], comprising at least a part of the white light [the white light source from the light source 8 combine of three R, G, and B color lights, see col. 6, lines 45-46; Fig. 4 expressly shows the light beam G enters a microlens 22a is indicated by arrows G (in/out), see col. 9, lines 31-32] introduced to said counter substrate [the light beam G is condensed by the microlens 22a and illuminates a G pixel electrode 26g, see col. 9, lines 34-38] is reflected on the pixel electrode [it is reflected by the pixel electrode 26g formed of aluminum, see col. 9, lines 34-38] so as not to pass through the active matrix substrate [and again emerges out of the liquid crystal panel 2 through the same microlens 22a, see col. 9, lines 34-38].

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the white light reflected on the pixel electrode as taught by Kurematsu in Komoto's active matrix liquid crystal panel in order to achieve

the benefit of good color image display of high quality free of the so-called R, G, B mosaic becomes possible (see col. 26, lines 25-28).

6. As to claim 8, Komoto et al teaches a Fresnel type reflection plate (200, fig. 39).

7. As to claims 9, 14, 18, 22, 26, Komoto et al teaches the notebook type computers (col. 10, lines 40-41).

8. As to claims 10, 12, 16, 20, 24, Komoto et al teaches the pixel electrodes comprise metal/insulating film/metal (MIM) junction type (col. 18, lines 61-62).

9. As to claims 13, 17, 21, 25, Komoto et al teaches the transparent substrate 32 (fig. 16) is alkali glass (fig. 16, col. 13, lines 38-49); a counter substrate (half mirrors 66A, fig. 36) is a glass.

10. Claims 7, 11, 15, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komoto et al in view of Hirota et al (US 5,926,240) hereinafter Hirota.

11. As to claims 7, 11, 15, 19 and 23, Komoto teaches an electronic device [a portable type electronic equipment, see col. 10, lines 40-42], comprising:

A reflection type liquid crystal panel comprising an active matrix substrate and a counter substrate, said active matrix substrate having a plurality of thin film transistors and a plurality of pixel electrodes connected with the thin film transistors [a reflection type liquid crystal panel (see fig. 39), comprising an active matrix substrate 32 (see fig. 16) and a Fresnel type reflection plate 200 (a counter substrate, see fig. 39), the active matrix substrate having a plurality of thin film transistors 35 (see fig. 16), a plurality of pixel electrodes 34 (see fig. 16)];

a battery [battery cells, see col. 10, line 40];

a light source comprising 3-color light emitting diodes for producing three primary colors for additive color mixing [the LED lamps 22d, 22e and 22f emitting R, G, and B colors are arranged in the installation section 25d, see fig. 23a, col. 22, lines 47-49. The light emitting element 110 and produces the lights having the wavelengths at the red, green, and blue color range is used as the wavelength change material 112, the light source emitting a white color of a high luminance can be realized, col. 34, lines 47-51]. Thus, the 3-color red, green, and blue are mixing for the white light as claimed;

a reflection plate located adjacent to the liquid crystal panel with the light emitting diodes interposed therebetween, said light emitting diodes and the reflection plate arranged horizontally with respect to the liquid crystal panel [a Fresnel type reflection plate 200 (a reflection plate, fig. 39), the light emitting diodes (22d, 22e, 22f, fig. 30) interposed therebetween, the light emitting diodes (22d, 22e, 22f, fig. 30) and the Fresnel type reflection plate 200 (the reflection plate, fig. 39) arranged horizontally with respect to the liquid crystal display (fig. 16)];

wherein white light emitted from the light source is introduced into said liquid crystal panel from sides of said counter substrate of said liquid crystal panel [white light emitted from the light source 22 (col. 34, lines 44-53) is introduced into the liquid crystal panel from sides of Fresnel type reflection plate 200 (the counter substrate, fig. 39) of the liquid crystal panel (fig. 37)].

Accordingly, Komoto teaches all of the claimed limitations, except wherein at least a part of the white light introduced to said counter substrate is reflected on the pixel electrode so as not to pass through the active matrix substrate.

However, Hirota teaches a related active matrix liquid crystal display panel 18 [fig. 2, col. 5, line 15], comprising: at least a part of the white light [the reflective Rd(d) of white light, col. 4, line 39] introduced to said counter substrate [went through to a glass substrate 11 having a transparent electrode 10, see fig. 1, col. 5, lines 17-18] is reflected on the pixel electrode [a white light from the boundary surface of the dielectric film 8 and the reflective pixel electrodes 7, see fig. 2, col. 4, lines 10-12] so as not to pass through the active matrix substrate [the white light does not go through the substrate 1, see fig. 2].

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the white light reflected on the pixel electrodes as taught by Hirota in the Komoto's active matrix liquid crystal panel in order to achieve the benefit of optimize according to the wavelength range and the specific luminosity factor of the incident light on each liquid crystal display device, improving the brightness of the projection type liquid crystal display apparatus (see Hirota, col. 7, lines 43-49), while fabricating the liquid crystal display panel easily and low cost (see Hirota, col. 4, line 67 through col. 5, line 1).

Response to Arguments

12. Applicant's arguments with respect to claims 7-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

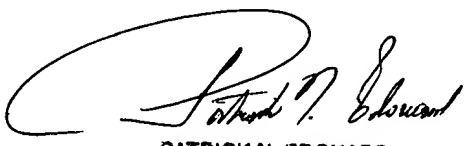
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 9:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KMN
November 17, 2005



PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER